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ABSTRACT OF THE DISCLOSURE

A wafer polisher and method for the chemical mechanical planarization of semiconductor wafers. The polisher includes a wafer holder for supporting the semiconductor wafer and a linear polishing assembly having a polishing member positioned to engage the surface of the wafer. The polishing member is movable in a linear direction relative to the wafer surface to uniformly polish the surface of the wafer. A pivotal alignment device may be used to pivotally support one of the wafer holder and the polishing member relative to the other of the wafer holder and the polishing member with the surface of the wafer and the polishing member retained in parallel alignment during operation of the polisher. The polisher optionally includes a conditioning station for conditioning the polishing member.